STIC EIC 2100 Search Request Form

125671
120

Today's Date: 6/24/04

What date would you like to use to limit the search?
Priority Date: 1/3/00 Other:

Name Monty Hamilton
AU 2135 Examiner # 79384
Room # 4A42 Phone 308-5116
Serial # 09/753,363

Format for Search Results (Circle One):
PAPER DISK EMAIL

Where have you searched so far?
USP DWPI EPO JPO ACM IBM TDB
IEEE INSPEC SPI Other

Is this a "Fast & Focused" Search Request? (Circle One) YES NO
A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Re-focus

See claim 1
act of partitioning
partitioning

claim 7
data partition Module
partition

STIC Searcher Terese Esterfield Phone 308-7795
Date picked up 6/25/04 11:30am Date Completed 6/25/04 3:00pm

Search and Information Resources Administration

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Set     Items   Description
S1    1482393   PARTITION OR SPLIT? OR DIVID? OR SECTION? OR SEGMENT? OR S-
            EPARATE? OR EXTRACT? OR PARSE OR PARSING
S2      21013   (TRAINING OR INSTRUCT? OR TEACH?)(1W)(DATA OR SET OR SETS -
            OR SAMPLE OR EXAMPLAR)
S3        459   (MODEL OR MODELING)()SET?
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S6       2938   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
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S10        81   S1 (3N) S5
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S12         0   S10 AND S2 AND S3
S13         4   S11 AND S2 AND S3
S14       105   S1 AND S2 AND S3
S15     43556   S1 (N) (MODULE? ? OR COMPONENT? ? OR ELEMENT? ? OR ROUTINE?
             ?)
S16        32   S15 AND S2 AND S3
S17        41   S14 AND S4
S18        26   S16 AND S4
S19        41   S17 OR S18
S20        29   S19 AND IC=G06F?
File 348:EUROPEAN PATENTS 1978-2004/Jun W03
        (c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040624,UT=20040617
        (c) 2004 WIPO/Univentio
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            XPRESSION? OR TECHNIQUE?)(2N)(MODEL OR MODELING)
S10       105   S1 (3N) S5
S11         0   S10 AND S2 AND S3
S12       862   S1 AND S5
S13         0   S11 AND S2 AND S3
S14         9   S1 AND S2 AND S3
S15      9487   S1 (N)(MODULE? ? OR COMPONENT? ? OR ELEMENT? ? OR ROUTINE?
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S17         0   S14 AND S4
S18         0   S12 AND S2 AND S3
S19         7   S14 NOT PY>2000
S20         7   S19 NOT PD>20000103
S21         4   RD (unique items)
File   8:Ei Compendex(R) 1970-2004/Jun W2
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/May
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2004/May 14
         (c) 2004 EBSCO Publishing
File  65:Inside Conferences 1993-2004/Jun W3
         (c) 2004 BLDSC all rts. reserv.
File   2:INSPEC 1969-2004/Jun W2
         (c) 2004 Institution of Electrical Engineers
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File  94:JICST-EPlus 1985-2004/May W5
         (c)2004 Japan Science and Tech Corp(JST)
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/May
         (c) 2004 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2004/Jun W1
         (c) 2004 FIZ TECHNIK
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
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21/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05219835 E.I. No: EIP99024554442
Title: Structural shape indexing with feature generation models
Author: Nishida, Hirobumi
Corporate Source: Ricoh Co, Ltd, Tokyo, Jpn
Source: Computer Vision and Image Understanding 73 1 Jan 1999. p 121-136
Publication Year: 1999
CODEN: CVIUF4 ISSN: 1077-3142
Language: English
Document Type: JA; (Journal Article) Treatment: G; (General Review)
Journal Announcement: 9903W5
Abstract: Structural indexing is a potential approach to efficient classification and retrieval of image patterns with respect to a very large number of models. This technique is based on the idea of distributing features associated with model identifiers over a large data structure prepared for a **model set**, along with classification by voting for models with reference to the **extracted** features. Essential problems caused by mapping image features to discrete indices are that indexing is sensitive to noise, scales of observation, and local shape deformations, and that a priori knowledge and feature distributions of corrupted instances are not available for each class when a large number of **training data** are not presented. To cope with these problems, shape feature generation techniques are incorporated into structural indexing. An analysis of feature transformations is carried out for some particular types of shape deformations, leading to feature generation rules composed of a small number of distinct cases. The rules are exploited to generate features that can be **extracted** from deformed patterns caused by noise and local shape deformations. In both processes of model database organization and classification, the generated features by the transformation rules are used for structural indexing and voting, as well as the features actually **extracted** from contours. The effectiveness of the proposed method is demonstrated by experimental trials with a large number of sample data. Furthermore, its application to shape retrieval from image databases is mentioned. The shape feature generation significantly improves the classification accuracy and efficiency. (Author abstract) 20 Refs.
Descriptors: Feature **extraction**; Mathematical transformations; Image understanding; Data structures
Identifiers: Structural shape indexing; Shape feature generation techniques
Classification Codes:
741.1 (Light/Optics); 921.3 (Mathematical Transformations); 723.2 (Data Processing)
741 (Optics & Optical Devices); 921 (Applied Mathematics); 723 (Computer Software)
74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

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Set     Items   Descripti
S1    1697619   PARTITION OR SPLIT? OR DIVID? OR SECTION? OR SEGMENT? OR S-
            EPARATE? OR EXTRACT? OR PARSE OR PARSING
S2      26327   (TRAINING OR INSTRUCT? OR TEACH?)(1W)(DATA OR SET OR SETS -
            OR SAMPLE OR EXAMPLAR)
S3        471   (MODEL OR MODELING)()SET?
S4       9698   LOAD?(2N)(DATA OR INFORMATION)
S5       2416   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
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S11       170   S1 (S) S5
S12         0   S10 (S) S2 (S) S3
S13         0   S11 (S) S2 (S) S3
S14         0   S1 (S) S2 (S) S3
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S16         0   S15 (S) S2 (S) S3
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S20         0   S11 (S) S3
S21         0   S10 (S) S4
S22         0   S11 (S) S4
File 647:CMP  Computer Fulltext 1988-2004/Jun W2
         (c) 2004 CMP Media, LLC
File 275:Gale Group Computer DB(TM) 1983-2004/Jun 25
         (c) 2004 The Gale Group
File 674:Computer News Fulltext 1989-2004/Jun W2
         (c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/Jun 24
         (c) 2004 The Dialog Corp.
File 624:McGraw-Hill Publications 1985-2004/Jun 24
         (c) 2004 McGraw-Hill Co. Inc
File 636:Gale Group Newsletter DB(TM) 1987-2004/Jun 24
         (c) 2004 The Gale Group
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2004/Jun 25
         (c) 2004 PR Newswire Association Inc
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            OR SAMPLE OR EXAMPLAR)
S3        279   (MODEL OR MODELING)()SET?
S4      15125   LOAD?(2N)(DATA OR INFORMATION)
S5        646   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
            5N) (DATA()BASE? OR DATABASE? OR METADATA OR DATABANK? OR DAT-
            A()BANK? OR DATAMIN?)
S6       3929   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
            ISCOVERY OR EXTRACTION OR HARVESTING) OR KDD
S7     283593   AGRICULTURE OR FARMING OR CULTIVATING()SOIL OR (PRODUCING -
            OR RAISING)(2N)(CROPS OR LIVESTOCK) OR SOIL()CHEMISTRY
S8      94758   FERTILIZER()(RECIPE OR FORMULA) OR CROP()YIELD OR WATER()U-
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S9       1705   (ALGORITHM? OR RULE? OR FORMULA? OR SCHEME? OR LOGIC? OR E-
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S10        25   S1 (3N) S5
S11       135   S1 AND S5
S12         0   S11 AND S2 AND S3
S13         0   S11 AND S2
S14         0   S11 AND S3
S15         0   S1 AND S2 AND S3
S16      1915   S1 AND S2
S17        49   S1 AND S3
S18     23526   S1(N)(MODULE? ? OR COMPONENT? ? OR ELEMENT? ? OR ROUTINE? -
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S19         0   S18 AND S1 AND S2 AND S3
S20         0   S18 AND S1 AND S3
S21         9   S18 AND S1 AND S2
S22         0   S18 AND S2 AND S3
S23         9   S18 AND S2
S24         0   S18 AND S3
S25        83   S10 OR S17 OR S21 OR S23
S26        37   S25 AND IC=G06F?
File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)
        (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200440
        (c) 2004  Thomson Derwent
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26/5/27 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013855623 **Image available**
WPI Acc No: 2001-339836/200136
XRPX Acc No: N01-245820

Data entry processing system of bridge structure model, has data entry unit to display effective area of bridge structure model expanded by data expansion unit and inputs data of bridge structure model

Patent Assignee: SHIMIZU CONSTR CO LTD (SHMC)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001092863	A	20010406	JP 99266409	A	19990921	200136	B

Priority Applications (No Type Date): JP 99266409 A 19990921
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001092863	A		5	G06F-017/50	

Abstract (Basic): JP 2001092863 A

NOVELTY - The area data **extraction** unit (12) **extracts** data of effective area in three-dimensional space of bridge structure **model set** by area setting unit (11). Based on **extracted** effective area, the data expansion unit (13) expands the effective area of bridge structure model which is displayed by data entry unit and is input as data of bridge structure model.

USE - For bridge structure model.

ADVANTAGE - As the expanded effective area is displayed and input as data of bridge structure model, even for complicated input structure building, a structure analytic model is efficiently input.

DESCRIPTION OF DRAWING(S) - The figure shows the data entry processing system of bridge structure model. (Drawing includes non-English language text).

Area setting unit (11)
Data **extraction** unit (12)
Data expansion unit (13)
pp; 5 DwgNo 1/9

Title Terms: DATA; ENTER; PROCESS; SYSTEM; BRIDGE; STRUCTURE; MODEL; DATA; ENTER; UNIT; DISPLAY; EFFECT; AREA; BRIDGE; STRUCTURE; MODEL; EXPAND; DATA; EXPAND; UNIT; INPUT; DATA; BRIDGE; STRUCTURE; MODEL
Derwent Class: Q43; T01
International Patent Class (Main): **G06F-017/50**
International Patent Class (Additional): E04B-001/00
File Segment: EPI; EngPI

26/5/28 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013586360 **Image available**
WPI Acc No: 2001-070567/200108
XRPX Acc No: N01-053445

Parallel data processing apparatus in computer graphics field, has single instruction multiple data array of processing elements , divided into several blocks to process respective groups of data items

Patent Assignee: PIXELFUSION LTD (PIXE-N); CLEARSPEED TECHNOLOGY LTD (CLEA-N); ATKIN P (ATKI-I); CAMERON K (CAME-I); DAVID R (DAVI-I); DAY T (DAYT-I); FAULDS G (FAUL-I); GREER T (GREE-I); MCCONNELL R (MCCO-I); O'DEA E (ODEA-I); RHOADES J (RHOA-I); STUTTARD D (STUT-I); WILLIAMS D (WILL-I); WINSER P (WINS-I)
Inventor: ATKIN P; CAMERON K; DAVID R; DAY T; FAULDS G; GREER T; MCCONNELL R; O'DEA E; RHODES J; STUTTARD D; WILLIAMS D; WINSER P; RHOADES J
Number of Countries: 093 Number of Patents: 029

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200062182	A2	20001019	WO 2000GB1332	A	20000407	200108 B
AU 200038295	A	20001114	AU 200038295	A	20000407	200108
GB 2348971	A	20001018	GB 998199	A	19990409	200108
GB 2348972	A	20001018	GB 998201	A	19990409	200108
GB 2348973	A	20001018	GB 998203	A	19990409	200108
GB 2348974	A	20001018	GB 998204	A	19990409	200108
GB 2348975	A	20001018	GB 998205	A	19990409	200108
GB 2348976	A	20001018	GB 998209	A	19990409	200108
GB 2348977	A	20001018	GB 998211	A	19990409	200108
GB 2348978	A	20001018	GB 998214	A	19990409	200108
GB 2348979	A	20001018	GB 998219	A	19990409	200108
GB 2348980	A	20001018	GB 998225	A	19990409	200108
GB 2348981	A	20001018	GB 998226	A	19990409	200108
GB 2348982	A	20001018	GB 998228	A	19990409	200108
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GB 2348984	A	20001018	GB 998230	A	19990409	200108
GB 2349484	A	20001101	GB 998227	A	19990409	200108
GB 2352306	A	20010124	GB 998222	A	19990409	200108
EP 1181648	A1	20020227	EP 2000917203	A	20000407	200222
			WO 2000GB1332	A	20000407	
US 20020174318	A1	20021121	WO 2000GB1332	A	20000407	200279
			US 2001972797	A	20011009	
JP 2002541586	W	20021203	JP 2000611183	A	20000407	200309
			WO 2000GB1332	A	20000407	
GB 2391093	A	20040128	GB 998203	A	19990409	200413
			GB 200324170	A	20031015	
GB 2348971	B	20040303	GB 998199	A	19990409	200417
GB 2348973	B	20040310	GB 998203	A	19990409	200418
GB 2391093	B	20040407	GB 998203	A	19990409	200425
			GB 200324170	A	20031015	
GB 2394815	A	20040505	GB 998230	A	19990409	200430
			GB 2004893	A	20040115	
GB 2348984	B	20040512	GB 998230	A	19990409	200432
GB 2348974	B	20040512	GB 998204	A	19990409	200432
GB 2348980	B	20040512	GB 998225	A	19990409	200432

Priority Applications (No Type Date): GB 998230 A 19990409; GB 998199 A 19990409; GB 998201 A 19990409; GB 998203 A 19990409; GB 998204 A 19990409; GB 998205 A 19990409; GB 998209 A 19990409; GB 998211 A 19990409; GB 998214 A 19990409; GB 998219 A 19990409; GB 998222 A 19990409; GB 998225 A 19990409; GB 998226 A 19990409; GB 998227 A 19990409; GB 998228 A 19990409; GB 998229 A 19990409; GB 200324170 A 20031015; GB 2004893 A 20040115

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200062182	A2	E	142	G06F-015/76	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
AU 200038295	A				Based on patent WO 200062182
GB 2348971	A		92	G06F-013/16	
GB 2348972	A		80	G06F-015/80	
GB 2348973	A		74	G06F-015/80	
GB 2348974	A		80	G06F-015/80	
GB 2348975	A		80	G06F-015/80	
GB 2348976	A		102	G06F-015/80	
GB 2348977	A		78	G06F-015/80	
GB 2348978	A		68	G06F-015/80	
GB 2348979	A		78	G06F-015/80	
GB 2348980	A		79	G06F-012/02	
GB 2348981	A		74	G06F-015/80	
GB 2348982	A		77	G06F-015/80	

GB 2348983 A 68 G06F-015/80
GB 2348984 A 80 G06F-015/80
GB 2349484 A G06F-015/80
GB 2352306 A G06F-015/80
EP 1181648 A1 E G06F-015/76 Based on patent WO 200062182
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
US 20020174318 A1 G06F-015/00 Cont of application WO 2000GB1332
JP 2002541586 W 111 G06F-015/16 Based on patent WO 200062182
GB 2391093 A G06F-015/80 Div ex application GB 998203
GB 2348971 B G06F-013/16
GB 2348973 B G06F-015/80
GB 2391093 B G06F-015/80 Div ex application GB 998203
GB 2394815 A G06F-015/80 Div ex application GB 998230
GB 2348984 B G06F-015/80
GB 2348974 B G06F-015/80
GB 2348980 B G06F-012/02

Abstract (Basic): WO 200062182 A2

NOVELTY - The processing element in single **instruction** multiple **data** (SIMD) array (10) is **divided** into several blocks to process the respective groups of data items, based on the received common instruction.

DETAILED DESCRIPTION - A fault generated in a processing block is detected to transfer the data processing function of a processing block to a redundant processing block. INDEPENDENT CLAIMS are also included for the following:

(a) method of scheduling instruction streams in data processing apparatus;

(b) method of controlling data read access to memory;

(c) data processing method using data processor;

(d) external memory access controlling method;

(e) controller for controlling an array of processing elements;

(f) thread manager for use in an array of processing elements;

(g) semaphore controller;

(h) data transferring method;

(i) register score boarding unit

USE - In computer graphics field, an application e.g. set top box for receiving and decoding digital television and internet signals.

ADVANTAGE - Provides high speed processing of data. Enables to process large amounts of data quickly.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of graphic data processing system.

SIMD array (10)

pp; 142 DwgNo 1/15

Title Terms: PARALLEL; DATA; PROCESS; APPARATUS; COMPUTER; GRAPHIC; FIELD; SINGLE; INSTRUCTION; MULTIPLE; DATA; ARRAY; PROCESS; ELEMENT; **DIVIDE** ; BLOCK; PROCESS; RESPECTIVE; GROUP; DATA; ITEM

Derwent Class: T01; W03

International Patent Class (Main): **G06F-012/02** ; **G06F-013/16** ; **G06F-015/00** ; **G06F-015/16** ; **G06F-015/76** ; **G06F-015/80**

International Patent Class (Additional): **G06F-009/38** ; **G06F-009/46** ; **G06F-011/20** ; **G06F-015/177**

File Segment: EPI

26/5/30 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013039344 **Image available**

WPI Acc No: 2000-211197/200019

XRPX Acc No: N00-157994

Compile procedure for processor with several sorts of instruction sets **, involves generating evaluation data for choosing efficient** instruction set **for each paragraph of program and switching over on** instruction set

Patent Assignee: TOSHIBA K (TOKE)
Inventor: DOUNIWA K
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11338710	A	19991210	JP 98147057	A	19980528	200019	B
US 6308323	B1	20011023	US 99320730	A	19990527	200165	

Priority Applications (No Type Date): JP 98147057 A 19980528
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11338710	A		9	G06F-009/45	
US 6308323	B1			G06F-009/45	

Abstract (Basic): JP 11338710 A

NOVELTY - The compiling procedure involves generating evaluation data to judge whether the **instruction set** is advantageous for every paragraph of a program and switching over on **instruction set** for every paragraph of the program selected. DETAILED DESCRIPTION - The compile procedure for the processor with several sorts of **instruction sets** (225) is performed by judging whether each part of a program of which **instruction set** is advantageous and switching over an **instruction set** from the result obtained by the evaluation for every part of the program. The switching of the **instruction set** performs automatic insertion of the code/cord for **instruction set** switching to required part. INDEPENDENT CLAIMS are also included for the following: compiling apparatus; recording medium storing compiling program

USE - Used for processor with several sorts of **instruction sets** recorded in a recording medium.

ADVANTAGE - **Module section** of the program is performed for every function, and every fine block and compiles **instruction set** code/cord size and estimation execution cycle for every set of instructions. Performs automatic insertion of the **instruction set** switching at a required part. Information for choosing an efficient **instruction set** is provided. Compiling is performed at high speed.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of the compile procedure of the processor. (225) **Instructions sets** .

Dwg.1/7

Title Terms: COMPILE; PROCEDURE; PROCESSOR; SORT; INSTRUCTION; SET; GENERATE; EVALUATE; DATA; CHOICE; EFFICIENCY; INSTRUCTION; SET; PARAGRAPHS; PROGRAM; SWITCH; INSTRUCTION; SET
Derwent Class: T01
International Patent Class (Main): **G06F-009/45**
File Segment: EPI

26/5/31 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012923570 **Image available**
WPI Acc No: 2000-095406/200008
Related WPI Acc No: 1998-232728; 1998-232818; 1999-570571; 1999-609600; 2004-024612
XRPX Acc No: N00-073552

Geographic data records storage method in navigation applications e.g. global positioning system

Patent Assignee: NAVIGATION TECHNOLOGIES CORP (NAVI-N)
Inventor: ASHBY R A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5974419	A	19991026	US 96740295	A	19961025	200008	B
			US 96740298	A	19961025		
			US 97924328	A	19970905		

Priority Applications (No Type Date): US 97924328 A 19970905; US 96740295 A

direction result. A determination unit decides the position of one or more symmetrical lines when judgment unit judges a symmetry, corresponding to the input model. A pattern position part (15) **divides** the pattern of the input model about the symmetrical line and a judging part (17) judges the symmetry of the constraint related to the symmetrical line.

A third judging part (18) judges the symmetry of the constraint related to the symmetrical line. The input model is **divided** by a main program operation part (11) above the symmetrical line encompassing all the symmetries pertaining to load and constraint. The analysis takes place after production of an analysis object produced by a dynamic model production unit. The model is produced, suitable for display in a display device (23) of a graphic display part (19).

ADVANTAGE - Automates formation of analysis object. Simplifies mirror imaging.

Dwg.1/22

Title Terms: AUTOMATIC; DYNAMIC; MODEL; FORMATION; APPARATUS; STRUCTURE; ANALYSE; DYNAMIC; MODEL; PRODUCE; UNIT; CONVERT; DYNAMIC; MODEL; SET; ANALYSE; OBJECT; PRIOR; ANALYSE; DISPLAY; GRAPHIC; DISPLAY; PART

Derwent Class: T01

International Patent Class (Main): G06T-017/20

International Patent Class (Additional): **G06F-017/13**

File Segment: EPI

26/5/35 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010485288 **Image available**

WPI Acc No: 1995-386610/199550

State detection device for processing unit - has unit state detector to define state of each as normal or abnormal from comparison result

Patent Assignee: YOKOGAWA DENKI KK (YOKG)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 7261826	A	19951013	JP 9456009	A	19940325	199550	B

Priority Applications (No Type Date): JP 9456009 A 19940325

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7261826	A		10	G05B-023/02	

Abstract (Basic): JP 7261826 A

The state detection device consists of a process data state detection unit (11) a state input unit (12), an unit state definition unit (13), a spatial pattern database and an unit state detector (15). The state input unit inputs the process data and various kinds of presumed values detected by the process data detection unit. The state of the unit is extracted from the process data by the unit state definition unit and stored in the spatial pattern database.

The unit state detector detects the state for each unit by comparing the input data with the data in the standard pattern **spatial database** . A state relation **extraction** unit extracts the relation between the inputs. The unit state definition unit defines the state of a unit as normal or abnormal from the acquired data.

ADVANTAGE - Reduces burden of person in change of operation. Employs unit based monitoring of process.

Dwg.1/14

Title Terms: STATE; DETECT; DEVICE; PROCESS; UNIT; UNIT; STATE; DETECT; DEFINE; STATE; NORMAL; ABNORMAL; COMPARE; RESULT

Derwent Class: T01

International Patent Class (Main): G05B-023/02

International Patent Class (Additional): **G06F-015/18**

File Segment: EPI

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Set     Items   Descripti
S1        587   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
                5N) (DATA()BASE? OR DATABASE? OR METADATA OR DATABANK? OR DAT-
                A()BANK? OR DATAMIN?)
S2       3652   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
                ISCOVERY OR EXTRACTION OR HARVESTING) OR KDD
S3     281207   AGRICULTURE OR FARMING OR CULTIVATING()SOIL OR (PRODUCING -
                OR RAISING)(2N)(CROPS OR LIVESTOCK) OR SOIL()CHEMISTRY
S4      92305   FERTILIZER()(RECIPE OR FORMULA) OR CROP()YIELD OR WATER()U-
                SE OR SLOPE? OR SITE()SPECIFIC()FERTILIZER
S5       1604   (ALGORITHM? OR RULE? OR FORMULA? OR SCHEME? OR LOGIC? OR E-
                XPRESSION? OR TECHNIQUE?)(2N)(MODEL OR MODELING)
S6          3   S1 AND S2
S7          0   S1 AND S3 AND S4
S8          6   S2 AND S4
S9          1   S1 AND S4
S10         5   S2 AND S3
S11         4   S1 AND S3
S12         0   S1 AND S5
S13        14   S2 AND S5
S14         2   S3 AND S5
S15         1   S4 AND S5
S16        36   S6 OR S8 OR S9 OR S10 OR S11 OR S13 OR S14 OR S15
S17        24   S16 AND IC=G06F?
File 347:JAPIO Oct 1976-2003/Sep(Updated 040105)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200402
         (c) 2004  Thomson Derwent
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17/5/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015737809 **Image available**
WPI Acc No: 2003-800010/200375
XRPX Acc No: N03-640928

Software simulation method for digital logic system, involves developing and compiling gate syntax statement and simulation environment files to produce executable software implemented simulation model

Patent Assignee: INTRINSITY INC (INTR-N)
Inventor: BLOMGREN J S; BOEHM F A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6604065	B1	20030805	US 99405474	A	19990924	200375	B

Priority Applications (No Type Date): US 99405474 A 19990924
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6604065	B1		19	G06F-017/50	

Abstract (Basic): US 6604065 B1

NOVELTY - A gate syntax statement and simulation environment files are developed and compiled to produce an executable software implemented simulation **model** of **logic** circuit. The **model** has several instructions to access input signal models and mathematically/logically manipulate the signal characteristics of input logic signals to generate output signal models.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) software-implemented simulator;

(2) program storage device storing instructions to perform a method that models logic circuitry; and

(3) method of operating software-implemented simulator.

USE - For software simulation used for digital system in N- nary logic design style.

ADVANTAGE - Simulates logic designs efficiently and allows the designers to adjust the simulation environment, check for logic errors and improves simulation environment parameters by simplifying **extraction** of signal **information** .

DESCRIPTION OF DRAWING(S) - The figure shows the schematic view of the standard simulation workstation for performing software-simulation method.

workstation (10)
processing unit (12)
internal memory (18)
control circuitry (24)
circuit behavioral model (28)

pp; 19 DwgNo 1/7

Title Terms: SOFTWARE; SIMULATE; METHOD; DIGITAL; LOGIC; SYSTEM; DEVELOP; COMPILE; GATE; SYNTAX; STATEMENT; SIMULATE; ENVIRONMENT; FILE; PRODUCE; EXECUTE; SOFTWARE; IMPLEMENT; SIMULATE; MODEL
Derwent Class: T01
International Patent Class (Main): **G06F-017/50**
File Segment: EPI

17/5/5 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015681002 **Image available**
WPI Acc No: 2003-743191/200370
Related WPI Acc No: 2000-328999; 2000-339151; 2000-339161; 2000-339162; 2001-490569; 2001-490570; 2002-654694; 2002-705322; 2003-584345
XRPX Acc No: N03-595080

Data mining **applications performing system, has analytical algorithm to measure associations between data items in relational database to create analytical** model **within analytic** logical **data** model

Patent Assignee: NCR CORP (NATC)
Inventor: ANAND T; KERBER R G; PRICER J E; TATE B D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6611829	B1	20030826	US 98102831	P	19981002	200370	B
			US 99410528	A	19991001		

Priority Applications (No Type Date): US 98102831 P 19981002; US 99410528 A 19991001
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6611829	B1		14	G06F-007/00	Provisional application US 98102831

Abstract (Basic): US 6611829 B1

NOVELTY - The system has a structure query language (SQL) based analytical algorithm that measures associations between multiple items in a stream of transaction data stored in a relational database. The algorithm creates an analytical model within an analytic **logical** data **model** from data residing in the database.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a method for performing **data mining** applications

(b) an article of manufacture for performing **data mining** applications.

USE - Used for performing **data mining** applications.

ADVANTAGE - The SQL-based analytic algorithm provides more efficient usage of parallel processor computer systems and provides a foundation for **data mining** tool sets in relational database management systems. The algorithm can directly operate against data warehouses, and allows **data mining** of large databases, thereby benefiting non-statisticians.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart that illustrates the logic of performing **data mining** applications.

pp; 14 DwgNo 3/5

Title Terms: DATA; MINE; APPLY; PERFORMANCE; SYSTEM; ANALYSE; ALGORITHM; MEASURE; DATA; ITEM; RELATED; DATABASE; ANALYSE; MODEL; LOGIC; DATA; MODEL
Derwent Class: T01
International Patent Class (Main): **G06F-007/00**
File Segment: EPI

17/5/14 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014540559 **Image available**
WPI Acc No: 2002-361262/200239
XRPX Acc No: N02-282313

Spatial data mining **method for geographic information system application, involves modeling pre-processed data set to describe relation between attributes and target values for optimizing** fertilizer recipe

Patent Assignee: FIEZ T E (FIEZ-I); HOSKINSON R L (HOSK-I); LAZAREVIC A (LAZA-I); OBRADOVIC Z (OBRA-I); POKRAJAC D (POKR-I); VUCETIC S (VUCE-I)
Inventor: FIEZ T E; HOSKINSON R L; LAZAREVIC A; OBRADOVIC Z; POKRAJAC D; VUCETIC S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020038307	A1	20020328	US 2000174389	P	20000103	200239	B
			US 2001753363	A	20010102		

Priority Applications (No Type Date): US 2000174389 P 2000[illegible]03; US 2001753363 A 20010102
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020038307 A1 16 G06F-007/00 Provisional application US 2000174389

Abstract (Basic): US 20020038307 A1

NOVELTY - A data set is generated from spatial data using identified attributes. The data set is pre-processed to prepare the set for modeling. The pre-processed data set is modeled to describe relation between attributes and target values. Recommendations are provided to optimize a **fertilizer recipe** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Computer program product for implementing spatial **data mining** ;

(b) Method for analyzing the spatial data sets

USE - For geographic information system (GIS) applications such as for preparing optimum **fertilizer recipe** for an agricultural field.

ADVANTAGE - Allows creation of several algorithms in different programming environments for using in single system through unified control. Provides researchers with the ability to use the knowledge obtained from one data set and use this knowledge to different agricultural sites. Enables to analyze how different attributes affect the target value which leads to efficient and productive management. The modeling module allows users to interactively and flexibly analyze and mine spatial data.

DESCRIPTION OF DRAWING(S) - The figure shows an exemplary system providing suitable operating environment for implementing spatial **data mining** method.

pp; 16 DwgNo 1/4

Title Terms: SPACE; DATA; MINE; METHOD; GEOGRAPHICAL; INFORMATION; SYSTEM; APPLY; PRE; PROCESS; DATA; SET; DESCRIBE; RELATED; ATTRIBUTE; TARGET; VALUE; OPTIMUM; FERTILISER; RECIPE
Derwent Class: T01; T06; X25
International Patent Class (Main): **G06F-007/00**
File Segment: EPI

17/5/16 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014011806 **Image available**
WPI Acc No: 2001-496020/200154
XRPX Acc No: N01-367532

Computer program product compares results of modeling with performance of stored model, and represents lift chart of each output of modeling using different visual indications

Patent Assignee: UNICA TECHNOLOGIES INC (UNIC-N)
Inventor: KENNEDY R; LEE Y
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 6269325 B1 20010731 US 98176370 A 19981021 200154 B

Priority Applications (No Type Date): US 98176370 A 19981021
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 6269325 B1 13 G06F-017/50

Abstract (Basic): US 6269325 B1

NOVELTY - The visual representation of the results of modeling the expected behavior in form of lift chart, is produced by running several models on the set of test data. The performance of the results of modeling is compared with the performance of the stored model and the results of modeling the expected behavior is output to output device to

represent each results of modeling using different visual indications.

USE - Computer program product with **data mining** software for collecting marketing data, credit risk management, process control, medical diagnosis, etc.

ADVANTAGE - The result of each modeling is represented as lift chart using different visual indications. As a result, understanding of each modeling when large number of algorithms are executed, is efficiently enabled.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart explaining the process to produce lift chart for different **modeling algorithm** .

pp; 13 DwgNo 4/6

Title Terms: COMPUTER; PROGRAM; PRODUCT; COMPARE; RESULT; PERFORMANCE; STORAGE; MODEL; REPRESENT; LIFT; CHART; OUTPUT; VISUAL; INDICATE

Derwent Class: T01

International Patent Class (Main): **G06F-017/50**

File Segment: EPI

17/5/17 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013167289 **Image available**

WPI Acc No: 2000-339162/200029

Related WPI Acc No: 2000-328999; 2000-339151; 2000-339161; 2001-490569; 2001-490570; 2002-654694; 2002-705322; 2003-584345; 2003-743191

XRPX Acc No: N00-254660

Computer implemented system for performing data mining **applications, involves executing parallel deployer, for managing parallel invocations of analytic models created by analytic algorithm**

Patent Assignee: NCR CORP (NATC)

Inventor: HERMAN M H; MILLER T E; ROLLINS A L

Number of Countries: 090 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200020999	A1	20000413	WO 99US23031	A	19991001	200029	B
AU 9961693	A	20000426	AU 9961693	A	19991001	200036	
EP 1125224	A1	20010822	EP 99948531	A	19991001	200149	
			WO 99US23031	A	19991001		

Priority Applications (No Type Date): US 98102831 P 19981002

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200020999	A1	E	28	G06F-017/30	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9961693	A			Based on patent WO 200020999
EP 1125224	A1	E	G06F-017/30	Based on patent WO 200020999

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200020999 A1

NOVELTY - A computer executes at least one analytic algorithm which includes SQL statements executed by the relational database management system directly against the relational database and optional programmatic iteration. A parallel deployer is executed by the computer, for managing parallel invocations of analytic models created by the analytic algorithm, in a parallel session table.

DETAILED DESCRIPTION - The analytic algorithm creates at least one analytic model within an analytic **logical** data **model** from the data residing in the relational database. INDEPENDENT CLAIMS are also included for the following:

(a) method for performing **data mining** applications;
(b) program for performing **data mining** applications
USE - For performing **data mining** applications, using computer.
ADVANTAGE - Reduces fine numerical data details by assigning them to ranges or bins and correlating their values or determining their covariances.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram illustrating exemplary computer hardware environment.
pp; 28 DwgNo 1/6
Title Terms: COMPUTER; IMPLEMENT; SYSTEM; PERFORMANCE; DATA; MINE; APPLY; EXECUTE; PARALLEL; MANAGE; PARALLEL; MODEL; ALGORITHM
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

17/5/18 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013167288 **Image available**
WPI Acc No: 2000-339161/200029
Related WPI Acc No: 2000-328999; 2000-339151; 2000-339162; 2001-490569; 2001-490570; 2002-654694; 2002-705322; 2003-584345; 2003-743191
XRPX Acc No: N00-254659

Massive parallel processing computer system for data mining **applications, includes analytic** logic **data** model **that provides** logical **entity and attribute definitions for analytic processing**

Patent Assignee: NCR CORP (NATC)
Inventor: MILLER T E; ROLLINS A L; TATE B D
Number of Countries: 090 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200020998	A1	20000413	WO 99US23019	A	19991001	200029 B
AU 9964123	A	20000426	AU 9964123	A	19991001	200036
EP 1121653	A1	20010808	EP 99951749	A	19991001	200146
			WO 99US23019	A	19991001	
US 6553366	B1	20030422	US 98102831	P	19981002	200330
			WO 99US23019	A	19991001	
			US 2001806678	A	20010402	

Priority Applications (No Type Date): US 98102831 P 19981002; US 2001806678 A 20010402
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200020998	A1	E	47	G06F-017/30	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
AU 9964123	A				Based on patent WO 200020998
EP 1121653	A1	E		G06F-017/30	Based on patent WO 200020998
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 6553366	B1			G06F-017/30	Provisional application US 98102831 Based on patent WO 200020998

Abstract (Basic): WO 200020998 A1
NOVELTY - A relational database management system (RDBMS) (114) executed by a computer, accesses the relational database stored on data storage devices. An analytic **logical** data **model** (LDM) provides **logical** entity and attribute definitions for advanced analytic processes (112) performed by RDBMS directly against relational database.
DETAILED DESCRIPTION - AN INDEPENDENT CLAIM is also included for performance method of **data mining** applications.

USE - For **data mining** applications in RDBMS.
ADVANTAGE - Allows data mixing of large databases.
DESCRIPTION OF DRAWING(S) - The figure show the block diagram of computer hardware environment.
Advanced analytic processes (112)
RDBMS (114)
pp; 47 DwgNo 1/5
Title Terms: MASS; PARALLEL; PROCESS; COMPUTER; SYSTEM; DATA; MINE; APPLY; LOGIC; DATA; MODEL; LOGIC; ENTITY; ATTRIBUTE; DEFINE; PROCESS
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **G06F-003/14**
File Segment: EPI

17/5/19 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013167278 **Image available**
WPI Acc No: 2000-339151/200029
Related WPI Acc No: 2000-328999; 2000-339161; 2000-339162; 2001-490569; 2001-490570; 2002-654694; 2002-705322; 2003-584345; 2003-743191
XRPX Acc No: N00-254649

Computer implemented system for performing data mining **application, processes analytic algorithm to create at least one analytic model from data in relational database**

Patent Assignee: NCR CORP (NATC)
Inventor: ANAND T; BRYE T M; HILDRETH J D; MILLER T E; PRICER J E; ROLLINS A L; TATE B D
Number of Countries: 090 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200020982	A1	20000413	WO 99US22966	A	19991001	200029	B
AU 9962846	A	20000426	AU 9962846	A	19991001	200036	
EP 1116125	A1	20010718	EP 99950121	A	19991001	200142	
			WO 99US22966	A	19991001		

Priority Applications (No Type Date): US 98102831 P 19981002
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200020982	A1	E	25	G06F-015/16	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9962846	A			Based on patent WO 200020982
EP 1116125	A1	E	G06F-015/16	Based on patent WO 200020982

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200020982 A1
NOVELTY - Relational database management system (RDBMS) (114) is executed by computer for managing relational database (116) stored in data storage units (DSUs) (106). At least one analytic algorithm processed by the computer has SQL statements performed by RDBMS and optical programmatic iteration. The algorithm creates at least one analytic **model** in analytic **logical** data **model** from data included in the database.
DETAILED DESCRIPTION - The analytic algorithm implemented in extended ANSI SQL, provides statistical and machine learning methods for creating the analytic **logical** data **model** . An INDEPENDENT CLAIM is also included for method for performing **data mining** applications.
USE - For performing data warehousing applications such as **data**

mining application.

ADVANTAGE - Any type of computer such as main frame, mini computer or PC is used to implement the analytic algorithm. **Data mining** of very large databases are performed directly within a relational database. Analytic results are managed within the database. A comprehensive set of analytic operations can be performed with RDBMS. Application is integrated through an object oriented application processor interface (API).

DESCRIPTION OF DRAWING(S) - The figure shows block diagram of computer hardware environmental for **data mining** application.

Relational database (106)

RDBMS (114)

DSUs (116)

pp; 25 DwgNo 1/3

Title Terms: COMPUTER; IMPLEMENT; SYSTEM; PERFORMANCE; DATA; MINE; APPLY; PROCESS; ALGORITHM; ONE; MODEL; DATA; RELATED; DATABASE

Derwent Class: T01

International Patent Class (Main): **G06F-015/16**

International Patent Class (Additional): **G06F-017/00** ; **G06F-017/30**

File Segment: EPI

17/5/20 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012745421 **Image available**

WPI Acc No: 1999-551538/199946

XRPX Acc No: N99-408088

Recipe optimizing method for spatial environment

Patent Assignee: LOCKHEED MARTIN IDAHO TECHNOLOGIES CO (LOCK)

Inventor: FINK R K; HEMPSTEAD D W; HESS J R; HOSKINSON R L

Number of Countries: 084 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9946703	A1	19990916	WO 99US5268	A	19990309	199946	B
AU 9930773	A	19990927	AU 9930773	A	19990309	200006	

Priority Applications (No Type Date): US 9877583 P 19980310

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9946703	A1	E	56	G06F-017/40	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9930773	A		G06F-017/40	Based on patent WO 9946703

Abstract (Basic): WO 9946703 A1

NOVELTY - A **spatial database** having multiple facts associated with the spatial environment is defined. The facts are analyzed to determine if the facts are feasible. A recipe for the spatial environment is devised from the facts that are determined to be feasible. The facts that are determined to be feasible are instructions to be performed on the spatial environment to achieve an optimum result.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a computer-readable medium storing instructions for the recipe optimizing method;

(b) a split recipe optimizing method;

(c) a **fertilizer recipe** optimizing method;

(d) an irrigation recipe optimizing method;

(e) and an optimizing method of recipe for multiple schedules for use with an agricultural field.

USE - For optimizing recipe e.g. split recipe, **fertilizer recipe** and irrigation recipe used in spatial environment e.g. agricultural field. For soil management and crop production.

ADVANTAGE - Improves optimization of recipe by utilizing expert systems. Reduces environmental pollution and energy waste. Provides knowledge database processing system which promotes user's judgment by combining relevant historical information together with current and predicted information to expand knowledge of database by feeding back a result of an actual or predicted event.

DESCRIPTION OF DRAWING(S) - The figure shows a process flowchart of the recipe optimizing method for spatial environment.

pp; 56 DwgNo 2/6

Title Terms: RECIPE; METHOD; SPACE; ENVIRONMENT
Derwent Class: P11; T01; T06; X25
International Patent Class (Main): **G06F-017/40**
International Patent Class (Additional): A01C-015/00; **G06F-019/00**
File Segment: EPI; EngPI

17/5/21 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012688175 **Image available**
WPI Acc No: 1999-494284/199941
XRAM Acc No: C99-144888

Easy, quick and efficient inspection method for microorganisms in foods, soil, underground water, air and other materials, by time-course analysis of primary colors of images and other data

Patent Assignee: HAKUJU INST HEALTH SCI CO LTD (HAKU-N); HAKUJU SEIKAGAKU KENKYUSHO KK (HAKU-N)
Inventor: ASANO T; HARA A; OMI A; TORAI Y
Number of Countries: 031 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9940176	A1	19990812	WO 99JP429	A	19990202	199941	B
JP 11221070	A	19990817	JP 9836827	A	19980203	199943	
AU 9920767	A	19990823	AU 9920767	A	19990202	200005	
JP 2000139445	A	20000523	JP 98334931	A	19981110	200033	
EP 1061127	A1	20001220	EP 99901217	A	19990202	200105	
			WO 99JP429	A	19990202		
CN 1289365	A	20010328	CN 99802652	A	19990202	200140	
KR 2001040521	A	20010515	KR 2000708385	A	20000801	200167	

Priority Applications (No Type Date): JP 98334931 A 19981110; JP 9836827 A 19980203
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9940176	A1	J	35	C12M-001/34	
Designated States (National): AU CA CN KR MX NO NZ PL RU SG US					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
JP 11221070	A		8	C12M-001/34	
AU 9920767	A				Based on patent WO 9940176
JP 2000139445	A		10	C12M-001/34	
EP 1061127	A1	E		C12M-001/34	Based on patent WO 9940176
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
CN 1289365	A			C12M-001/34	
KR 2001040521	A			C12M-001/34	

Abstract (Basic): WO 9940176 A1

NOVELTY - An inspection method for microorganisms comprising a computational treatment on the images of the microbes in a specimen, comparing with the previously stored data including their extraction characteristics and type identification, and calculating out an estimated state of the microbial breeding after the elapse of a given time, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a similar method in which a microorganism-containing specimen obtained from a sample is optionally fluorescence- or dye-treated before or/and after culturing, and then an image of such specimen is separated into the three primary colors for evaluation of histogram, color phase and hue of the various primary color prior to comparison with previously acquired data to provide prediction of the microbial breeding state, particularly comparing with overall data including the first data of previously obtained information and second data of genetic information for the microorganisms;

(2) an inspection unit for microorganisms with use of the above method comprising a culturing device, an image-grabbing device, a computation and processing device, and a device for disposal of the microorganisms; and

(3) a specimen container for exposing to light e.g. near-ultraviolet ray and for treatment by mixing with fluorescent material.

USE - The inspection method and unit are for estimating the state of microbial breeding after the elapse of a given time in a specimen, with provision of a prediction in advance. The method is applicable in fields like food and drink industry, medical care, hygiene and **agriculture** , e.g. in checking raw materials, (semi-)processed foods and beverages, sea water, underground water, drinking and industrial water, soil, wood and air for microorganisms.

ADVANTAGE - The method is easy and simple, without the need of skillful operators. It is also efficient and quick (specimen culturing for only 5-6 hrs, compared to 24-48 hrs conventionally). The data are image-based, with calculation of the hue and color phase of the three primary colors in the specimen images over a period of time. Prediction of the growth of bacteria is accurate, and other data such as genetic **information** and **extraction** characteristics of a particular microorganism and type identification can also be integrated with the obtained results for comparison and analysis through the use of a computer and database.

pp; 35 DwgNo 1/14

Title Terms: EASY; QUICK; EFFICIENCY; INSPECT; METHOD; MICROORGANISM; FOOD; SOIL; UNDERGROUND; WATER; AIR; MATERIAL; TIME; COURSE; ANALYSE; PRIMARY; IMAGE; DATA

Derwent Class: B04; C07; D16; F09; J04; P83

International Patent Class (Main): C12M-001/34

International Patent Class (Additional): C12M-001/22; C12Q-001/04; G01J-003/46; G01N-021/27; G03C-007/34; **G06F-019/00** ; G06T-007/00

File Segment: CPI; EngPI

17/5/22 (Item 21 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011255005 **Image available**

WPI Acc No: 1997-232908/199721

XRPX Acc No: N97-192508

Design apparatus which uses CAD/CAM or design of metal mould for components. - adds outline of 2D figure corresponding to extracted shape which is converted into notes by note conversion part, to 3D figure surface.

Patent Assignee: CANON KK (CANO)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9073473	A	19970318	JP 95226437	A	19950904	199721	B

Priority Applications (No Type Date): JP 95226437 A 19950904

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9073473	A		6	G06F-017/50	

Abstract (Basic): JP 9073473 A

The apparatus includes a three dimensional shape generation part which forms a three dimensional figure of a component. A two dimensional shape generation part generates a two dimensional figure of the components. A memory part stores a note text showing objective shapes and a shape attribute **information** . An **extraction** part extracts the shape of a surface of a three dimensional figure. A note conversion part converts the extracted shape to notes based on the note text stored in the memory. A note text additional remark part adds the outline of the two dimensional figure corresponding to the extracted shape which is converted into notes, to the three dimensional figure surface. A **slope** notation and a ridge line notation are respectively added to the front elevation and side view of the 2D figure. ADVANTAGE - Forms notation of outline showing characteristic shape of component.

Dwg.1/1

Title Terms: DESIGN; APPARATUS; CAD; CAM; DESIGN; METAL; MOULD; COMPONENT; ADD; OUTLINE; FIGURE; CORRESPOND; EXTRACT; SHAPE; CONVERT; NOTE; NOTE; CONVERT; PART; FIGURE; SURFACE

Derwent Class: T01

International Patent Class (Main): **G06F-017/50**

File Segment: EPI

17/5/23 (Item 22 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010950591 **Image available**

WPI Acc No: 1996-447541/199645

XRPX Acc No: N96-377146

Test-pattern production appts. for logic gate time check simulation - has test-pattern production unit that forms time check error information file from test pattern file, which describes contents of timing error in time check value

Patent Assignee: MITSUBISHI DENKI SEMICONDUCTOR SOFTWARE (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8221465	A	19960830	JP 9528252	A	19950216	199645	B

Priority Applications (No Type Date): JP 9528252 A 19950216

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8221465	A		7	G06F-017/50	

Abstract (Basic): JP 8221465 A

The appts. uses a database (1) in storing time check values of all standard logic gates. A timing error in the time check value is extracted by a time checking **information extraction** unit (2) from each state of the logic gate input pin.

A test-pattern production unit (3) produces a test pattern file (4) from the time check value. A time check error information file (5) which describes the contents of the timing error is then produced from the test pattern file.

ADVANTAGE - Reliably performs automatic production of test pattern. Improves precision and reliability in evaluating time check value. Can perform evaluation of timing check **model** in **logic** gate simulation thus function model is attained simultaneously for short time.

Dwg.1/8

Title Terms: TEST; PATTERN; PRODUCE; APPARATUS; LOGIC; GATE; TIME; CHECK; SIMULATE; TEST; PATTERN; PRODUCE; UNIT; FORM; TIME; CHECK; ERROR; INFORMATION; FILE; TEST; PATTERN; FILE; DESCRIBE; CONTENT; TIME; ERROR; TIME; CHECK; VALUE

Derwent Class: S01; T01; U11; U13

International Patent Class (Main): **G06F-017/50**

International Patent Class (Additional): G01R-031/28; G01R-031/3183
File Segment: EPI

17/5/24 (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010729714 **Image available**
WPI Acc No: 1996-226669/199623
XRPX Acc No: N96-190437
Adaptive reasoning knowledge extraction **device for fuzzy reasoning device - has fuzzy rule extraction part that starts updating of model parameter of each input and output node of neuro fuzzy model and extracts fuzzy** rule model **parameter in each neuro fuzzy** model **and** rule **weighting after study**
Patent Assignee: SHARP KK (SHAF)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8087414	A	19960402	JP 94221973	A	19940916	199623	B

Priority Applications (No Type Date): JP 94221973 A 19940916
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8087414	A		19	G06F-009/44	

Abstract (Basic): JP 8087414 A

The device has a data memory (2) which stores input/output data which includes an input data, output data, and a non-numerical value or a discrete value with several numerical values. A neuro fuzzy model part (4) has several neuro fuzzy models matched with one discrete value or a non-numerical value. Each input and output nodes of each neuro fuzzy model has an operating part which calculate output value using a fuzzy function.

A model parameter study part (5) updates a model parameter, so that a main error and the distributed error of an input data maybe minimised when input data of the input/output data is supplied to each input node of a neuro fuzzy model. A model parameter of each output node is updated by a neuro model study part (6) which also counts the number of times that each output node outputs max. A fuzzy rule extraction part (7) starts the model parameter study part and the neuro model study part, and extracts model parameter in each neuro fuzzy **model** and the **rule** weighting after study.

ADVANTAGE - Provides extraction device which can adapt to change in input/output data.

Dwg.1/11
Title Terms: ADAPT; EXTRACT; DEVICE; FUZZ; DEVICE; FUZZ; RULE; EXTRACT; PART; START; UPDATE; MODEL; PARAMETER; INPUT; OUTPUT; NODE; NEURO; FUZZ; MODEL; EXTRACT; FUZZ; RULE; MODEL; PARAMETER; NEURO; FUZZ; MODEL; RULE; WEIGHT; AFTER; STUDY
Derwent Class: T01
International Patent Class (Main): **G06F-009/44**
International Patent Class (Additional): **G06F-015/18** ; **G06F-017/60**
File Segment: EPI

```
Set     Items   Description
S1       1305   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
            5N) (DATA()BASE? OR DATABASE? OR METADATA OR DATABANK? OR DAT-
            A()BANK? OR DATAMIN?)
S2       2710   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
            ISCOVERY OR EXTRACTION OR HARVESTING) OR KDD
S3      14057   AGRICULTURE OR FARMING OR CULTIVATING()SOIL OR (PRODUCING -
            OR RAISING)(2N)(CROPS OR LIVESTOCK) OR SOIL()CHEMISTRY
S4      64062   FERTILIZER()(RECIPE OR FORMULA) OR CROP()YIELD OR WATER()U-
            SE OR SLOPE? OR SITE()SPECIFIC()FERTILIZER
S5       7354   (ALGORITHM? OR RULE? OR FORMULA? OR SCHEME? OR LOGIC? OR E-
            XPRESSION? OR TECHNIQUE?)(2N)(MODEL OR MODELING)
S6          3   S1 (S) S2
S7          1   S1 (S) S3 (S) S4
S8         17   S2 (S) S4
S9          5   S1 (S) S4
S10         1   S2 (S) S3
S11        12   S1 (S) S3
S12         6   S1 (S) S5
S13        17   S2 (S) S5
S14        10   S3 (S) S5
S15        43   S4 (S) S5
S16       106   S6:S15
S17        33   S16 AND IC=G06F?
File 348:EUROPEAN PATENTS 1978-2003/Dec W02
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20031225,UT=20031218
         (c) 2003 WIPO/Univentio
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' ooo o 0 0 0' 0
PROT00 L
PLANNING STUDIES
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I o
ASSA **KNOWLEDGE**
DE VEL **DISCOVERY**
USER INTERFACE
EsTATISTICAL TO F DATA MINING VIS U4 LIZA
T-
COMMON SCHEMA
A SSA YS, SOLUBLE CLINICAL INSTRUMENTATION SEMISTRUCTU
PROTOCOL FACTOR DA TA INFORMA TIC
Figure 3
4000 3000
Slope x I 000
CD8/CD27
(Chl/ChO) 2100
CD27-CD8T
1000
CD27+ CD8 T
CD27-'CD80
I...10 100 1000 10000
CD3 (Cy7-APQ
Figure 7A
Stimulated
IFN-y MOPC Control
000 - 000 - 000 **Slope** 000 - 000 - 000 -.
x 1000
hl/ChO 000 - 000 - 000 00(- 000 000
20% 1.0%
F7...

...Chl: Cy5.5 anti-CD8
Figure 8A Figure 8B
All Cells CD3+ Ce Us
2000 - 2000 2000 **SLOPEOI**
CD4+ T Cells CD4+ T Cells
1000 1000 1000
Mono tes
CD8+ T Cells
CD8+ T Cells...

17/5,K/27 (Item 25 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00515351 **Image available**
OPTIMIZATION OF A RECIPE FOR A SPATIAL ENVIRONMENT
OPTIMISATION D'UNE RECETTE POUR UN ENVIRONNEMENT GEOGRAPHIQUE
Patent Applicant/Assignee:
LOCKHEED MARTIN IDAHO TECHNOLOGIES COMPANY,
HOSKINSON Reed L,
HEMPSTEAD David W,
FINK Raymond K,
HESS J Richard,
Inventor(s):
HOSKINSON Reed L,
HEMPSTEAD David W,
FINK Raymond K,
HESS J Richard,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9946703 A1 19990916
Application: WO 99US5268 19990309 (PCT/WO US9905268)
Priority Application: US 9877583 19980310
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GD GE GH GM HR HU [redacted] IL IN IS JP KE KG KP KR KZ LC [redacted] LR LS LT LU
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
UG US UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ
TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI
CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: **G06F-017/40**
International Patent Class: **G06F-019/00** ; A01C-015/00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 14914

English Abstract
Systems and method are provided to optimize a recipe for a spatial environment. The method generally comprisess the steps of generating, analyzing a **spatial database** and devising a recipe. Generation of the **spatial database** involves the generation of both historic statements (110) and facts gathered from historic (112), present and future predicted events (114). Once the **spatial database** is generated, the facts are iteratively analyzed against the current statements (104) to see if they can or cannot be executed. If the facts can be executed, the facts are maintained as stored facts and analyzed for their economic feasibility. The determination of economic feasibility for the stored facts is accomplished by a iterative process similar to the determination of whether the facts can be executed. Once economic feasibility is determined, the recipe is devised. The method is optionally applied to the agricultural field for devising the **fertilizer recipe** , the irrigation recipe, and the split recipe.

French Abstract
La presente invention concerne des systemes et des procedes d'optimisation d'un environnement geographique. D'une maniere generale le procede comporte des etapes de creation et d'analyse d'une base de donnees geographiques et de formuler une recette. La creation de la base de donnees geographique inclut a la fois la creation des enonces historiques (110) et les faits recueillis a partir d'evenements historiques (112), presents et prevus dans le futur (114). Une fois la base de donnees geographiques creee, les faits sont analyses de maniere iterative par rapport aux enonces actuels (104) afin de verifier s'ils peuvent ou ne peuvent pas etre executes. Si les faits peuvent etre executes, les faits sont preserves en tant que faits memorises et analyses en ce qui concerne leur rentabilite. La determination de rentabilite concernant les faits memorises est effectuee par un processus iteratif semblable a celui utilise pour determiner si les faits peuvent etre executes. Lorsque la rentabilite economique a ete etablie, on formule la recette. Le procede peut etre eventuellement applique a un champ de cultures pour formuler des recettes concernant les fertilisants, l'irrigation et la repartition.

Main International Patent Class: **G06F-017/40**
International Patent Class: **G06F-019/00** ...
Fulltext Availability:
Detailed Description
Claims

English Abstract
...optimize a recipe for a spatial environment. The method generally comprisess the steps of generating, analyzing a **spatial database** and devising a recipe. Generation of the **spatial database** involves the generation of both historic statements (110) and facts gathered from historic (112), present and future predicted events (114). Once the **spatial database** is generated, the facts are iteratively analyzed against the current statements (104) to see if they can...

...determined, the recipe is devised. The method is optionally applied to the agricultural field for devising the **fertilizer recipe** , the

irrigation recipe, and the split recipe.

Detailed Description

... operation has a set of instructions for fertilizing or for irrigating an agricultural field so that the **crop yield** can be economically optimized. The step of actually applying the **fertilizer recipe** or irrigation recipe to the spatial environment is optional. After the recipe is devised, the recipe is preferably updated to increase the knowledge of the **spatial database** and to improve the optimization thereof

Updating the recipe includes systems and methods ...recipe 106 and optionally comprises the updating of the recipe at step 108

The generation of the **spatial database** 102 comprises the characterization of unknowns, variables and constraints for the spatial environment that is to be...as discussed in the background section, the current generation of VRT fertilizer truck/ tractor spreaders for precision **farming** have 5 booms to distribute the fertilizer. Those booms are about 70 feet in length

An example...step 112. As used herein, "facts" are a set of descriptors condensed from the "knowledge" of the **spatial database** provided by the historic statements. The facts summarize ...bounding some set of conditions. An example of a fact is a descriptor relating the quantity of **crop yield** for a given historic statement. Thus, for a plurality of historic 0 statements generated for the numerous...

...soil types. Other facts are similarly generated from the historic statements to represent the knowledge of the **spatial data base** in an abridged version

5 In a preferred embodiment, facts are generated from the ...the nutrients contained therein. For example, a chosen variable might be nitrogen and before application of the **fertilizer recipe** to the field a particular spatial site contained 42 ppm before the growing season and contained 44 then be used to provide additional knowledge for the 31 **spatial database** . Thus, the chosen variable is fed back into the **spatial database** at step 144

This feedback of the chosen variable into the spatial database is more fully illustrated...steps performed in both of the alternative embodiments of Figures 4A and 4B. In Figure 4C, the **fertilizer recipe** is ...chosen variable such as nitrogen is measured 142 and the measured variable is fed back into the **spatial database** 144. Since the latest nitrogen measurement is now a "current" assessment of the soil, at least some...acre agricultural field near Ashton, Idaho was experimentally prepared for the purposes of generating an economically optimized **fertilizer recipe** specific to the field. The data was obtained from various and wide ranging sources such as market...

...obtained provided the knowledge for generating statements, both historic and current, and for generating facts of the **spatial database** . The facts were analyzed against the current statements and a **fertilizer recipe** specific to the field was devised. The fertilizer was applied to the field by precision **farming** machinery and closely monitored throughout the growing season. The results, after harvest, demonstrated a cost savings of...

...Moreover, the decrease in yield 0 can be attributed to the lack of capabilities of conventional precision **farming** machinery. As described previously, precision **farming** machinery has a boom for distributing fertilizer which is about 70 feet across. Although highly sophisticated, the...

Claim
... 39, wherein said next stage is
determined by crop physiology.

44. A method for economically optimizing a **fertilizer recipe** for use with an agricultural ...soil condition of said agricultural field, said historic statements, said facts and said current statements defining a **spatial database** for said agricultural field;
...blend, each said fact that is able to be executed is a stored fact; and
devising said **fertilizer recipe** for said agricultural field from each said stored fact that is determined to be economically feasible. 5...soil condition of said agricultural field, said
historic statements, said facts and said current statements defining a **spatial database** for said agricultural field;
analyzing said facts against said current statements to determine whether said facts can...

17/5,K/30 (Item 28 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00432423 **Image available**
METHOD AND APPARATUS FOR SYNTHESIZING SITE-SPECIFIC FARMING DATA
PROCEDE ET DISPOSITIF DE SYNTHESE DES DONNEES D'EXPLOITATION AGRICOLE SPECIFIQUES A UN SITE
Patent Applicant/Assignee:
CASE CORPORATION,
Inventor(s):
HALE George H,
WENDTE Keith W,
HAACK Paul W,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9822887 A1 19980528
Application: WO 97US21034 19971121 (PCT/WO US9721034)
Priority Application: US 96753335 19961122
Designated States: AU BR UA UZ AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: **G06F-017/17**
International Patent Class: A01D-41:12
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 12224

English Abstract
A site-specific farming system (100) which performs various functions while remaining relatively unaffected by spurious farming data is disclosed. The farming data may be received in real-time from location signal generation and sensing circuits (138, 108), or may be received from a digital memory (114) which stores the farming data. The farming data includes both valid and spurious farming data which are identified by integrity checking the data. Existing relationships which exist within the valid farming data are exploited to generate synthesized farming data used to replace the spurious farming data. The valid and synthesized farming data are used to perform a function of the farming system such as performing a statistical analysis of the farming data, generating an electronic display (404) of the farming data, generating a prescription map, or generating variable rate application signals.

French Abstract
L'invention concerne un systeme (100) d'exploitation agricole specifique a un site capable de realiser diverses fonctions tout en restant relativement peu affecte par des donnees d'exploitation agricole

parasites et donc non valides. Les donnees d'exploitation agricole peuvent etre recues soit en temps reel des circuits (138, 108) generateurs ou detecteurs de signaux de localisation soit d'une memoire numerique (114) ou sont stockees les donnees d'exploitation agricole. Lesdites donnees comprennent des donnees valides et non valides qui sont identifiees a l'aide d'un processus de verification de la validite des donnees. Les relations qui existent entre les donnees d'exploitation agricole valides sont exploitees pour generer des donnees d'exploitation agricole synthetisees qui seront utilisees pour remplacer les donnees d'exploitation agricole non valides. Les donnees valides et synthetisees sont utilisees pour assurer une fonction du systeme d'exploitation agricole telle que l'analyse statistique des donnees d'exploitation agricole, l'affichage electronique (404) de ces donnees, l'etablissement d'une carte de prescription, l'emission de signaux d'application de produits a dosage variable.

Main International Patent Class: **G06F-017/17**
Fulltext Availability:
Detailed Description

Detailed Description
... a geo-referenced
digital map, or a layer of data. The structure is preferably implemented using a **database** 300 (e.g., a **geographical** information system (GIS) **database**) represented by a table, wherein each row represents a characteristic data point taken at a location in...

...coordinates 7291520 and 39
A similar structure may be used to store each layer of site-specific **farming** data. For example, a pH layer may include a row for each data point and columns for...

```
Set     Items   Description
S1       6394   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
            5N) (DATA()BASE? OR DATABASE? OR METADATA OR DATABANK? OR DAT-
            A()BANK? OR DATAMIN?)
S2      28292   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
            ISCOVERY OR EXTRACTION OR HARVESTING) OR KDD
S3     278872   AGRICULTURE OR FARMING OR CULTIVATING()SOIL OR (PRODUCING -
            OR RAISING)(2N)(CROPS OR LIVESTOCK) OR SOIL()CHEMISTRY
S4     160291   FERTILIZER()(RECIPE OR FORMULA) OR CROP()YIELD OR WATER()U-
            SE OR SLOPE? OR SITE()SPECIFIC()FERTILIZER
S5      95621   (ALGORITHM? OR RULE? OR FORMULA? OR SCHEME? OR LOGIC? OR E-
            XPRESSION? OR TECHNIQUE?)(2N)(MODEL OR MODELING)
S6        233   S1 AND S2
S7          4   S6 AND S3
S8          0   S6 AND S4
S9         65   S2 AND S4
S10        10   S9 AND S3
S11        12   S1 AND S3 AND S4
S12        26   S7 OR S10 OR S11
S13        19   S12 NOT PY>2000
S14        19   S13 NOT PD>20000103
S15        18   RD (unique items)
File   8:Ei Compendex(R) 1970-2004/Jan W1
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/Dec
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2003/Nov 17
         (c) 2003 EBSCO Publishing
File  65:Inside Conferences 1993-2004/Jan W2
         (c) 2004 BLDSC all rts. reserv.
File   2:INSPEC 1969-2004/Jan W1
         (c) 2004 Institution of Electrical Engineers
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File  94:JICST-EPlus 1985-2004/Jan W1
         (c)2004 Japan Science and Tech Corp(JST)
File  99:Wilson Appl. Sci & Tech Abs 1983-2003/Nov
         (c) 2003 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2004/Dec W3
         (c) 2004 FIZ TECHNIK
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
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15/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05561019 E.I. No: EIP00055172940
Title: Clustering-regression-ordering steps for knowledge discovery **in** spatial databases
Author: Lazarevic, Aleksandar; Xu, Xiaowei; Fiez, Tim; Obradovic, Zoran
Corporate Source: Washington State Univ, Pullman, WA, USA
Conference Title: International Joint Conference on Neural Networks (IJCNN'99)
Conference Location: Washington, DC, USA Conference Date: 19990710-19990716
Source: Proceedings of the International Joint Conference on Neural Networks v 4 1999. IEEE, USA. p 2530-2534
Publication Year: 1999
CODEN: 85OFAE
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0007W1
Abstract: Precision **agriculture** is a new approach to **farming** in which environmental characteristics at a sub-field level are used to guide crop production decisions. Instead of applying management actions and production inputs uniformly across entire fields, they are varied to match site-specific needs. A first step in this process is to define spatial regions having similar characteristics and to build local regression models describing the relationship between field characteristics and yield. From these yield prediction models, one can then determine optimum production input levels. Discovery of `similar' regions in fields is done by applying the DBSCAN clustering algorithm on data from more than one field ignoring spatial attributes (x and y coordinates) and the corresponding yield values. Using these models, constructed on training field regions of obtained clusters, we aim to achieve better prediction on identified regions than using global prediction models. The experimental results on real life **agriculture** data show observable improvements in prediction accuracy, although there are many unresolved issues in applying the proposed method in practice. (Author abstract) 11 Refs.
Descriptors: Neural networks; Regression analysis; Database systems; Algorithms; Mathematical models; **Agriculture** ; Knowledge representation
Identifiers: Clustering-regression-ordering steps
Classification Codes:
723.4 (Artificial Intelligence); 922.2 (Mathematical Statistics); 723.3 (Database Systems)
723 (Computer Software); 922 (Statistical Methods); 821 (Agricultural Equipment & Methods)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 82 (AGRICULTURE & FOOD TECHNOLOGY)

15/5/3 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04479012 E.I. No: EIP94112414384
Title: Impacts of agricultural drainage well closure on crop production. A watershed case study
Author: Mohanty, B.P.; Tim, U.S.; Anderson, C.E.; Woestman, T.
Corporate Source: Agricultural Research Service, Riverside, CA, USA
Source: Water Resources Bulletin v 30 n 4 July-Aug 1994. p 687-703
Publication Year: 1994
CODEN: WARBAQ ISSN: 0043-1370
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 9610W4
Abstract: Much of north-central Iowa is characterized by flat topography,

shallow depressions, and poor natural surface drainage. Land drainage systems comprising of tile drains and agricultural drainage wells (ADWs) are used as outlets for subsurface drainage of cropland under corn and soybean production. Studies have shown that these drainage systems, mainly the ADWs, are potential routes for agricultural chemicals to underground aquifers. To protect the region's vital groundwater resource, researchers are evaluating alternative outlets ranging from complete closure of existing ADWs (and creation of wetlands) to continued use of ADWs and chemical management in a comprehensive policy framework. This paper presents the results of a study designed to provide government jurisdictions, farmers, and land managers information for assessing the impact of closing ADWs on crop production. The study couples a **geographic** information systems **database** for a 471-hectare watershed in Humboldt County, Iowa, with a groundwater flow model (MODFLOW) and an empirical **crop yield** loss model to predict long-term effects of complete closure of ADWs on crop production. The cropland areas inundated and the relative **crop yield** loss due to ADW closure are determined as a function of long-term climatic data. The results indicate that elimination of drainage outlets in the watershed could result in ponding of low-lying areas and poorly drained soils, making them unsuitable for crop production Such wetness also decreases the efficiency of production in the noponding areas by isolating fields, and the **crop yield** loss can be reduced by an annual average of about 18 percent. (Author abstract) 31 Refs.

Descriptors: **Agriculture** ; Cultivation; Drainage; Watersheds; Groundwater flow; Computer simulation

Identifiers: Iowa; Wetlands; **Crop yield** ; Software package MODFLOW

Classification Codes:

821.3 (Agricultural Methods); 444.2 (Groundwater); 723.5 (Computer Applications)

821 (Agricultural Equipment & Methods); 444 (Water Resources); 723 (Computer Software)

82 (AGRICULTURE & FOOD TECHNOLOGY); 44 (WATER & WATERWORKS ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

15/5/4 (Item 4 from file: 8)

03420563 E.I. Monthly No: EI9205056002

Title: Targeting animal waste pollution potential using a geographic information system.

Author: Heatwole, C. D.; Shanholtz, V. O.

Corporate Source: Virginia Polytechnic Inst and State Univ, Blacksburg, VA, USA

Source: Applied Engineering in Agriculture v 7 n 6 Nov 1991 p 692-698

Publication Year: 1991

CODEN: AEAGEI ISSN: 0883-8542

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)

Journal Announcement: 9205

Abstract: Data on livestock operations were added as a data layer and corresponding attribute table to the Virginia Geographic Information System (VirGIS) for seven countries in Virginia. A simple model calculates an animal waste pollution index (AWPI) which rates each site based on waste load, **slope** , and distance-to-stream. These factors are considered both for the facility as well as for the potential land application area surrounding the farm site. The **geographic** information system (GIS) **database** and model were used to produce maps and corresponding tables of facilities ranked by AWPL. Outputs were used as a screening tool to identify high-risk sites. Model evaluation based on 1253 farm sites in Rockingham County and 311 sites in Augusta County indicate a balance in site versus application area contribution to AWPI. For these two counties, the distribution of AWPI ratings is conducive to effective targeting. No relationship between animal type and AWPI was evident. (Author abstract) 14 Refs.

Descriptors: AGRICULTURAL WASTES--*Environmental Impact; WATER POLLUTION --Agricultural Runoffs; MAPS AND MAPPING--Computer Applications; **AGRICULTURE** --Virginia
Identifiers: ANIMAL WASTE POLLUTION; POLLUTION POTENTIAL; GEOGRAPHIC INFORMATION SYSTEMS
Classification Codes:
452 (Sewage & Industrial Wastes Treatment); 453 (Water Pollution); 405 (Construction Equipment & Methods); 723 (Computer Software)
45 (POLLUTION & SANITARY ENGINEERING); 40 (CIVIL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

15/5/10 (Item 5 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01614969 ORDER NO: AAD98-13712
METHODOLOGY AND DESIGN OF A DECISION SUPPORT SYSTEM TO PREDICT TREE GROWTH RESPONSE FROM FOREST FERTILIZATION (GIS, EXPERT SYSTEM)
Author: AVILA, ROBERTO ANTONIO
Degree: PH.D.
Year: 1997
Corporate Source/Institution: UNIVERSITY OF IDAHO (0089)
Major Professor: JAMES A. MOORE
Source: VOLUME 58/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 5212. 126 PAGES
Descriptors: **AGRICULTURE** , FORESTRY AND WILDLIFE ; COMPUTER SCIENCE ; INFORMATION SCIENCE
Descriptor Codes: 0478; 0984; 0723

Decision support system (DSS) technologies are becoming very important supporting tools for helping people in the decision-making process. DSS have been used in forestry and are evolving very rapidly as foresters are demanding more system functionality to improve forestry management operations along with development of dynamic and user-friendly software to cope with the increased demand for information.

The Intermountain Forest Tree Nutrition Cooperative (IFTNC) at the University of Idaho initiated a DSS project including, as its primary functional part, a real-time expert system prototype for Central Washington that focuses on tree nutrition management. The project's main objective was to design and develop a system methodology that involves a microcomputer program to predict Douglas-fir growth response based on fertilization treatments of 200 or 400 lb of nitrogen per acre during a six-year period. The system methodology began with the definition of the problem and ended with a preliminary design and operation of an integrated microcomputer application prototype.

Nine experts on forest fertilization management issues were interviewed with the purpose to acquire heuristic knowledge they use to conduct fertilization operations and also to obtain their input on how a fertilization-supporting tool could strengthen the decision-making process. In order to reinforce the qualitative information collected from the interviews, quantitative data from different sources were also gathered i.e., **data mining** . For instance, the IFTNC database was a source for individual tree measurements and site characteristics. **Geographic** Information Systems (GIS) **database** related to soil parent materials and potassium level were generalized to include these parameters as input attributes in the data set. Global Positional System (GPS) was used to locate stands and input site-specific conditions.

Interpretation and analysis included the interpretation of qualitative and quantitative information to look for system component functioning and then an analysis of how different components would operate under an integrated environment. To facilitate system understanding, a theoretical fertilization control system input was designed. This framework made it easy to design and operate the logic for various system module components. Also, preliminary definitions of the modeling and system architecture were studied.

Modeling consisted of searching for an appropriate mathematical

technique for system prediction. The system mathematical module uses a neural network approach where input/output data pairs on individual tree measurements and physical site characteristics are trained to predict Douglas-fir growth response based on 200 or 400 lb of nitrogen per acre during a six-year span. This component proved to be a quick and robust prediction technique for the prototype under development.

Finally system development primarily dealt with the design and operation of the prototype itself. This system uses distinct software packages within an integrated personal computer environment using Microsoft Visual Basic as the integration development language. Besides the mathematical module, the prototype includes a visualization module implemented with MapObjects that produces maps of geographic stand location and also serves for data interpretation and analysis.

The research project involved designing process that involves a feasible and rapid way of using different tools to deal with forest fertilization management operations. It uses different software components within an integrated computer development environment, resulting in a state-of-the-art fertilization prediction tool. The system supports management decisions, and helps people involved in forest fertilization design and administer fertilization prescriptions in the Intermountain Northwest.

15/5/11 (Item 6 from file: 35)

01414202 ORDER NO: AADAA-I9517682

MEASUREMENT AND ANALYSIS OF FIELD SPATIAL VARIABILITY FOR SITE-SPECIFIC CROP MANAGEMENT

Author: YANG, CHENGHAI
Degree: PH.D.
Year: 1994
Corporate Source/Institution: UNIVERSITY OF IDAHO (0089)
Major Professor: CHARLES L. PETERSON
Source: VOLUME 56/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 369. 196 PAGES
Descriptors: ENGINEERING, AGRICULTURAL; **AGRICULTURE** , AGRONOMY
Descriptor Codes: 0539; 0285

Increasing concern for the environment and the desire for improved productivity have made site-specific crop management more attractive than conventional **farming** practices. Two important aspects to the implementation of this **farming** technique are the measurement of field variability and identification of its spatial patterns. In this study, a set of sensors and the Global Positioning System (GPS) were integrated into a computerized data acquisition system for measuring wheat yield, soil organic matter, ground **slope** and aspect. Data were collected from five typical fields in the Palouse region of Washington. Field tests showed that the data collection system performed well. Methods and algorithms were developed to accurately measure **slope** and aspect by using two inclinometers and GPS. **Slope** steepness in these fields ranged from 0 to 30 degrees with means of 9 to 12 degrees. A series of procedures and computer programs were developed to correct, smooth, and convert field-collected data into usable forms. These programs automated the manipulation of raw data. The procedures for compensating for the yield monitor's time delay, removing its no-load drift, and smoothing yield data improved yield mapping accuracy.

An ARC/INFO-based **Geographic** Information System (GIS) **database** was developed to manage and analyze preprocessed field data and information from topographic maps and soils maps, and to group field data into different regions for analysis. Geostatistical techniques were used to identify the spatial patterns of variability in wheat yield. It was found that the spatial patterns of variability in wheat yield differed not only from one field to another but also from one region to another within a field. These results provide an important basis to divide the fields into appropriate cells for management.

Regression techniques were used to thoroughly study the correlation between wheat yield and topographic attributes including elevation, **slope** and aspect. Correlation analysis indicated that wheat yield was significantly correlated with at least one of the attributes. Regression results showed that field topography could explain about 30 to 50% of the variability in wheat yield. These results provided useful quantitative information about the influence of topography on **crop yield** .

15/5/13 (Item 8 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01144192 ORDER NO: AAD91-04851
A GIS-BASED SOIL-LANDSCAPE MODELING APPROACH TO PREDICT SOIL DRAINAGE CLASS
Author: BELL, JAMES C.
Degree: PH.D.
Year: 1990
Corporate Source/Institution: THE PENNSYLVANIA STATE UNIVERSITY (0176)
Adviser: ROBERT L. CUNNINGHAM
Source: VOLUME 51/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 4111. 216 PAGES
Descriptors: **AGRICULTURE** , AGRONOMY; PHYSICAL GEOGRAPHY
Descriptor Codes: 0285; 0368

A combination of field observations, statistical modeling, and geographic information system technology is used to demonstrate a soil-landscape modeling process to produce soil drainage class maps. The objectives of this research are to (1) calibrate a statistically based soil-landscape model, (2) validate the model using independent field observations, (3) apply the model to a digital **geographic database** to produce soil drainage class maps, and (4) extrapolate the model beyond the calibration site and evaluate results.

This study is divided into three distinct phases. First, we calibrated the soil-landscape model using field observations of soil and landscape combinations from a training area. This model uses a combination of class sampling frequencies and multivariate discriminant analysis to predict soil drainage class. Landscape variables used include soil parent material, **slope** shape and gradient, and various stream and drainageway proximity variables. A 74% overall agreement rate with field observations of soil drainage class was found for the model compared to 69% for the published soil survey.

Second, digital geographic data layers of the landscape variables were created and stored in a geographic information system using a 30 x 30 meter raster format. We applied the soil-landscape model to the digital **geographic database** on a cell-by-cell basis to define landscape variable combinations and make soil drainage class predictions for each grid cell. The product is a digital map of predicted soil drainage class.

Third, when the model was applied to another site within the same physiographic province, it failed to identify poorly drained soils on colluvial footslopes since this situation did not occur at the model calibration site. Consequently, the model is not portable for regional applications in its current form and may require partial re-calibration to local conditions.

The soil-landscape modeling technique has potential uses for soil survey and has advantages pertaining to mapping consistency, documentation of decision criteria, the ability to update models and map products easily, and the use of geographic information system technology for data management.

15/5/14 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6806169 INSPEC Abstract Number: C2001-02-7860-008
Title: A tool for controlled knowledge discovery **in spatial domains**

Author(s): Pokrajac, D.; Obradovic, Z.; Fiez, T.
Author Affiliation: Sch. of Electr. Eng. & Comput. Sci., Washington State Univ., Pullman, WA, USA
Conference Title: Simulation and Modelling. Enablers for a Better Quality of Life. 14th European Simulation. Multiconference 2000 p.26-9
Editor(s): Van Landeghem, D.
Publisher: SCS, San Diego, CA, USA
Publication Date: 2000 Country of Publication: USA xxiv+824 pp.
ISBN: 1 56555 204 0 Material Identity Number: XX-2000-02880
Conference Title: Simulation and Modelling. Enablers for a Better Quality of Life. 14th European Simulation Multiconference 2000. ESM'2000
Conference Sponsor: ASIM; Arbeitsgemeinschaft Simulation; CASS, Chinese Assoc. Syst. Simulation; CSSS, Czech & Slovak Simulation Soc.; et al
Conference Date: 23-26 May 2000 Conference Location: Ghent, Belgium
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: A data simulator that can facilitate the development of improved sampling and analysis procedures for spatial analysis is proposed. The simulator, implemented in MATLAB, provides a graphical user interface and allows users to generate data layers satisfying given spatial properties and a response variable dependent upon user specified functions. It has a modular structure and is capable of modeling response function heterogeneity (both in spatial coordinates and in driving attribute space) as well as unexplained variance, sensor error, spatial data sampling and interpolation. As an illustration of the potential uses of the simulator in precision **agriculture** , the effect of sampling density and interpolation on neural network prediction of **crop yield** was assessed. (13 Refs)
Subfile: C
Descriptors: **agriculture** ; **data mining** ; graphical user interfaces; interpolation; mathematics computing; neural nets; visual databases
Identifiers: controlled **knowledge discovery** tool; spatial domains; data simulator; spatial data sampling; spatial analysis; MATLAB; graphical user interface; user specified functions; response function heterogeneity; sensor error; interpolation; **agriculture** ; neural network prediction; **crop yield**
Class Codes: C7860 (Agriculture, forestry and fisheries computing); C6170K (Knowledge engineering techniques); C6180G (Graphical user interfaces); C6160S (Spatial and pictorial databases); C5290 (Neural computing techniques)

15/5/15 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

5770255 INSPEC Abstract Number: C9801-7190-003
Title: A prototype graphic landscape analysis system. 1. Predicting spatial patterns of grazing pressure using GIS
Author(s): Namken, J.C.; Stuth, J.W.
Author Affiliation: Natural Resources Conservation Service, United States Dept. of Agric., Washington, DC, USA
Journal: International Journal of Geographical Information Science vol.11, no.8 p.785-98
Publisher: Taylor & Francis,
Publication Date: Dec. 1997 Country of Publication: UK
CODEN: IGISFR ISSN: 1365-8816
SICI: 1365-8816(199712)11:8L.785:PGLA;1-2
Material Identity Number: F347-97008
U.S. Copyright Clearance Center Code: 1365-8816/97/$12.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: A prototype spatial graphic landscape system for use in PC-based micro-computers was developed. Spatial characteristics and attributes of a landscape were entered into a **geographical** information system to create a **data base** . A grazing pressure index was modelled using an algorithm which sequentially adjusts grazing capacity of response

units for percentage lost to brush density, **slope** , and distance from water. The grazing pressure model was verified on a poorly watered homogeneous pasture (1302 ha) and well watered complex pasture (2959 ha). Response units were highly correlated to observed grazing (r=0.92-0.94) in the poorly watered, homogeneous pasture. However, correlations were poor in the complex, well-watered pasture. Circular barrier effects of **slopes** , intermittent watering sources and relative differences in ecological condition of adjacent response units were identified as the primary factors reducing model performance. (25 Refs)

Subfile: C

Descriptors: ecology; **farming** ; geographic information systems

Identifiers: graphic landscape analysis system; spatial pattern prediction; grazing pressure; GIS; spatial graphic landscape system; PC-based microcomputers; geographical information system; database; grazing pressure index; brush density; distance from water; **slope** ; poorly watered homogeneous pasture; well watered complex pasture; circular barrier effects ; intermittent watering sources; ecological condition; landscape configurations; animal physiological needs; livestock needs

Class Codes: C7190 (Other fields of business and administrative computing); C6160S (Spatial and pictorial databases); C7840 (Geography and cartography computing); C7330 (Biology and medical computing)

15/5/16 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

5322909 INSPEC Abstract Number: C9608-7190-020

Title: A canopy reflectance computer simulation model

Author(s): Nikolopoulos, C.

Author Affiliation: Dept. of Comput. Sci., Bradley Univ., Peoria, IL, USA

Conference Title: Proceedings of the Twelfth IASTED International Conference Applied Informatics p.85-8

Editor(s): Hamza, M.H.

Publisher: IASTED, Anaheim, CA, USA

Publication Date: 1994 Country of Publication: USA 353 pp.

ISBN: 0 88986 190 0 Material Identity Number: XX95-01474

Conference Title: Proceedings of IASTED/ISMM Symposium. Applied Informatics

Conference Sponsor: IASTED; ISMM

Conference Date: 18-20 May 1994 Conference Location: Annecy, France

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: A computer simulation model is presented which, based on the Duntley system of equations, extracts quantitative relationships between spectral responses, media scene factors and parameters such as plant biomass and **crop yield** . Such relationships can be used to extract information from remotely sensed data in various applications. (1 Refs)

Subfile: C

Descriptors: digital simulation; **farming** ; reflectivity; remote sensing

Identifiers: canopy reflectance; computer simulation model; canopy reflectance computer simulation model; Duntley equation system; quantitative relationships; spectral responses; media scene factors; plant biomass; **crop yield** ; remotely sensed data; **information extraction**

Class Codes: C7190 (Other fields of business and administrative computing); C6185 (Simulation techniques); C7330 (Biology and medical computing)

```
Set     Items   Description
S1       6161   (SPATIAL? OR GEOSPATIAL OR GEO()SPATIAL? OR GEOGRAPHIC?) (-
            5N) (DATA()BASE? OR DATABASE? OR METADATA OR DATABANK? OR DAT-
            A()BANK? OR DATAMIN?)
S2      31786   DATA()MIN? OR DATAMIN? OR (KNOWLEDGE OR INFORMATION)(2N)(D-
            ISCOVERY OR EXTRACTION OR HARVESTING) OR KDD
S3     406898   AGRICULTURE OR FARMING OR CULTIVATING()SOIL OR (PRODUCING -
            OR RAISING)(2N)(CROPS OR LIVESTOCK) OR SOIL()CHEMISTRY
S4      54991   FERTILIZER()(RECIPE OR FORMULA) OR CROP()YIELD OR WATER()U-
            SE OR SLOPE? OR SITE()SPECIFIC()FERTILIZER
S5      21086   (ALGORITHM? OR RULE? OR FORMULA? OR SCHEME? OR LOGIC? OR E-
            XPRESSION? OR TECHNIQUE?)(2N)(MODEL OR MODELING)
S6         24   S1 (S) S2
S7          1   S1 (S) S3 (S) S4
S8          9   S2 (S) S4
S9         12   S1 (S) S4
S10        28   S2 (S) S3
S11        24   S1 (S) S3
S12         3   S1 (S) S5
S13        28   S3 (S) S5
S14        35   S4 (S) S5
S15         0   S13 AND S14
S16         0   S13 AND S1
S17         0   S13 AND S2
S18        73   S7 OR S8 OR S9 OR S10 OR S11 OR S12
S19        55   S18 NOT PY>2000
S20        43   S19 NOT PD>20000103
S21        40   RD (unique items)
File  15:ABI/Inform(R) 1971-2004/Jan 10
         (c) 2004 ProQuest Info&Learning
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 647:CMP  Computer Fulltext 1988-2004/Jan W1
         (c) 2004 CMP Media, LLC
File 275:Gale Group Computer DB(TM) 1983-2004/Jan 12
         (c) 2004 The Gale Group
File 674:Computer News Fulltext 1989-2004/Jan W1
         (c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/Jan 12
         (c) 2004 The Dialog Corp.
File 624:McGraw-Hill Publications 1985-2004/Jan 10
         (c) 2004 McGraw-Hill Co. Inc
File 636:Gale Group Newsletter DB(TM) 1987-2004/Jan 12
         (c) 2004 The Gale Group
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2004/Jan 12
         (c) 2004 PR Newswire Association Inc
File  16:Gale Group PROMT(R) 1990-2004/Jan 12
         (c) 2004 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 553:Wilson Bus. Abs. FullText 1982-2003/Nov
         (c) 2003 The HW Wilson Co
```

21/3,K/1 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02522637 116356119
Implementation of a knowledge-based agricultural geographic decision-support system in the Dominican Republic: a case study
Grabski, Severin V; Mendez, David
Information Technology & People v11n3 PP: 174-193 1998
ISSN: 0959-3845 JRNL CODE: OTP
WORD COUNT: 8117

...TEXT: used in a variety of settings. Knowledge-based GISs have been categorized into four areas: map design; **geographic** feature extraction; **geographic database** systems; and **geographic** decision-support systems (Robinson et al., 1987). Map design systems have been developed for the improvement of...

... systems utilize a knowledge base to interpret aerial and satellite images (Brooks, 1983; Goldberg et al., 1984). **Geographic database** systems have focused on obtaining sets of spatial locations which satisfy a query, or obtaining spatial objects...

... system, for regional planning which took into consideration the requirements of both the economic sectors (e.g. **agriculture** , industry, mining, etc.) and the social requirements (e.g. living conditions, employment, education, etc.), and for improving... the Ministry of Agriculture in the Dominican Republic. The system combines concepts from semantic data modeling and **database** design, **geographic** information systems, and knowledge-based systems.

The system was validated by officials from the Ministry of Agriculture...

21/3,K/2 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02032186 54859506
Field to plate: Fresh produce at the source
Anonymous
Restaurant Business PP: 6-26 2000
ISSN: 0097-8043 JRNL CODE: RTB
WORD COUNT: 6809

...TEXT: that are not included here, contact your distributor, the Produce Marketing Association, or individual states' departments of **agriculture** . Commodity groups representing specific produce varieties are also good sources of **information** about growing, **harvesting** , packing, and storing. Many of these associations also have recipes, promotional and educational materials, and other foodservice...

21/3,K/3 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01887919 05-38911
Applying geographic information systems
Joerger, Albert; DeGloria, Stephen D; Noden, Malcolm A
Cornell Hotel & Restaurant Administration Quarterly v40n4 PP: 48-59 Aug 1999
ISSN: 0010-8804 JRNL CODE: CHR
WORD COUNT: 6161

...TEXT: case study is based on expert knowledge that we developed from surveys of hotel owner-operators, existing **geographic databases** , field

observations, and the opinions of industry professionals. We conducted primary research in the form of...

... We collected further environmental data from the Costa Rican national government, and the United Nations Food and **Agriculture** Organization (FAO).The box on the next page describes in more detail the specific research methodology and...

21/3,K/14 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

02277616 SUPPLIER NUMBER: 54082316 (USE FORMAT 7 OR 9 FOR FULL TEXT)
MapInfo Adds Spatial to DB2 UDB. (new products).
Intelligent Enterprise, 2, 4, 6(1)
March 9, 1999
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1534 LINE COUNT: 00140

... in a table. You can also analyze spatial data using buffer, contains, adjacent to, overlap, length, union, **slope** , area, and perimeter. **SpatialWare** lets you use relational **database** tools to manipulate and analyze the data.
SpatialWare 3.6 supports IBM RS/6000 on AIX 4...

21/3,K/24 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

04188645 Supplier Number: 54791120 (USE FORMAT 7 FOR FULLTEXT)
INTERGRAPH: Intergraph announces next generation Geospatial Resource Management.
M2 Presswire, pNA
June 2, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1077

... or attribute modification.
Open architecture
GFramme is the first geospatial solution to be totally rewritten on open **database** technology. In GFramme's geometry, **spatial** functions, facilities **model** , business **rules** validation and transaction management are all part of the database and available to users throughout the enterprise...

21/3,K/25 (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

04150724 Supplier Number: 54417390 (USE FORMAT 7 FOR FULLTEXT)
Farm in a zone.
Olson, Joan
Farm Industry News, pNA
March 31, 1999
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Newsletter; Trade
Word Count: 1469

Some have likened precision **farming** information to a new crop. Farmers are busy **harvesting** the new " **information** crop" with yield monitors and satellite and aerial imagery, but few know how to use it to...

21/3,K/30 (Item 7 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

02233067 Supplier Number: 44258090 (USE FORMAT 7 FOR FULLTEXT)
Terrain database
Defense & Aerospace Electronics, v3, n46, pN/A
Nov 29, 1993
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 94

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...Geographic System. HOGS, a component of the Advanced Research Projects Agency's Warbreaker program, will be a **database** to store and access **spatial** information, spatial intelligence, hypothesis information and terrain information (landcover, soil materials, lines of communications and **slope**).

21/3,K/36 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

05101416 Supplier Number: 47489425 (USE FORMAT 7 FOR FULLTEXT)
Intergraph adopts Oracle 8 Spatial Cartridge; GeoMedia used to demonstrate GIS Integration with Oracle 8 Server Technology.
Business Wire, p06261281
June 26, 1997
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 566

... organizations. Intergraph's premier GIS product suite that includes the Modular GIS Environment (MGE) and the Facility **Rulebase** Applications **Model** Management Environment (FRAMME) directly support the new features in Oracle 8. In addition, the newest member of...

...Oracle Universal Data Server Spatial Cartridge. Oracle Spatial Cartridge provides all of the capabilities of a relational **database** for **spatial** data, while eliminating the need for middleware.
Oracle 8 provides the facility to store, manage and administer...

21/3,K/40 (Item 5 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

03536269 Supplier Number: 44960437
PROGRESSION BY PRECISION
Farm Chemicals, pA16
Sept, 1994
Language: English Record Type: Abstract
Document Type: Magazine/Journal; Trade

ABSTRACT:
Precision **agriculture** is the next technological revolution in **farming** . It involves using various technologies to bring management practices to the various conditions in a field. Production...

...an as-needed basis, similar to just-in-time manufacturing. Tools that will be used in precision **agriculture** include microcomputers, soil and crop **geographical databases** , positioning technologies, decision-support systems and automated machine functions to manage the land. Thus, farms can be...

21/9/40 (Item 5 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

03536269 Supplier Number: 44960437
PROGRESSION BY PRECISION
Farm Chemicals, pA16
Sept, 1994
ISSN: 0092-0053
Language: English Record Type: Abstract
Document Type: Magazine/Journal; Trade

ABSTRACT:
Precision **agriculture** is the next technological revolution in **farming** . It involves using various technologies to bring management practices to the various conditions in a field. Production would be on an as-needed basis, similar to just-in-time manufacturing. Tools that will be used in precision **agriculture** include microcomputers, soil and crop **geographical databases** , positioning technologies, decision-support systems and automated machine functions to manage the land. Thus, farms can be micromanaged, with farmers responding to variations in soil conditions, pest population, leaching and runoff potentials of nutrients and chemicals, and other factors.

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